

The Differential Geography of Races

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The mapping of racial characteristics has long concerned physical anthropologists. As early as the turn of the century, reports by Ripley (1900) and Deniker (1900) included maps of the distribution of stature and cranial index in European populations. However, it was not until the work of Chepurkovskii (1913) that the mapping of properties was recognized as an effective method of racial analysis, rather than a mere illustration for works in physical anthropology.

Chepurkovskii's suggestion of the geographical method of racial analysis was an evaluation of geographical clines in relation to variations in individual trait gradations, their underlying dynamics, and occasional discontinuities. On this basis, local combinations of traits were identified, enabling the analysis of racial variation in historical perspective.

In the mapping of continuous variables, there has been little, if any, progress over the past several decades. In compiling anthropological maps various cartographic techniques are employed, such as the use of symbols (Lundman 1968) or a continuous background (Biasutti 1959). Whatever the method, the data analyzed represent diverse samples, obtained at various times without reference to either their representativeness or their distribution. This accounts for the lively debate still going on as to the intervals into which a series should be divided, whether or not a quadratic deflection may be usable, and whether it is worthwhile to use equal intervals or ones which decrease as distance from the median value increases, etc.

When mapping simple hereditary characteristics for which gene frequencies can easily be calculated, it has long been customary to use the method of isogenes, or, more precisely, isogenic lines. The most complete maps of this kind, dealing with the D locus in the Rh system, were published by Mourant (1954, 1958).

The isogenic method seems worthwhile whenever the samples are numerous and continuously distributed throughout the territory being mapped. However, in some cases, the method gives an impression of continuous distribution when, in actual fact, discontinuities exist; in other cases, it gives an impression of discontinuity where none exists. Few samples and uneven coverage of the mapped territory lead to maps which are, at best, schematic in character and, at worst, largely inaccurate. An example of this can be found on the map of q genes in Siberia (Rychkov 1965). In the instance of mapping the gene frequencies of individual characteristics, the samples vary in size and demographic structure. The selection of the sample is probably a more important factor in these studies than in ones of metrical variation.

Emphasis on the population approach to the study of racial variation, though widely favored, still lacks sufficient data to establish beyond a doubt its effectiveness as a methodological approach to the field of racial analysis. The problem, to a great extent, derives from the fact that the material available was collected without regard to populational principles and, not infrequently, in direct violation of them. The populational structure of mankind is barely emerging as an object of research and has greatly altered in many areas of the world. For this reason, the populational approach has had little impact on the study of racial geography, although its application promises to be singularly effective, particularly where the findings of research on a small sample can be extended to a larger group. The situation is much the same in paleoanthropology and craniology, where the fragmentary nature of available data makes it necessary to calculate summary means for populations of large territories or archeological cultures (Figure 1).

The first deduction to be made from the persistent application of the population concept of race is that any large race is the sum of populations, large and small, not, as typological thinking would imply, a sum of individuals. Therefore, maps derived from samples of nations or large ethnic groups give a poor picture of reality. When an administrative district is used as a unit of cartography, as with the distribution maps of somatological and craniological features in Ireland (Hooton and Dupertuis 1955), in the territory of the east European plain (*Proiskhozhdenie* 1965; Alexeev 1969), the Caucasus (Abdushelishvili 1964) and Japan (Levin 1971), the result is an approximation of the population approach, provided there is some knowledge of population structure.

Through employment of the population approach, it becomes clear that race is not so much a sum, as an aggregation, of population. This implies that population characteristics follow the distribution pattern affected by the operation of genetic mechanisms within each racial entity. The level of differentiation of traits, the degree of morphological expression, and the hierarchic relationship of populations, all are fundamental

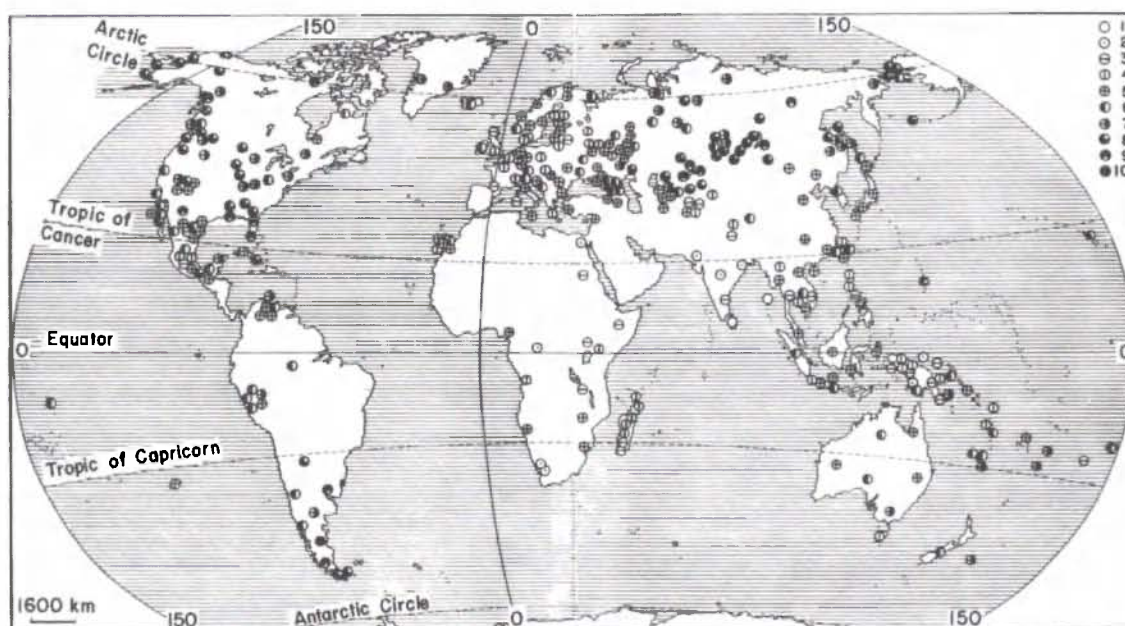


Figure 1. Geographical distribution of bizygomatic breadth (craniological data) Key: Male skulls (in millimeters): (1) 121.0–123.7; (2) 123.8–126.5; (3) 126.6–129.3; (4) 129.4–132.1; (5) 132.2–134.9; (6) 135.0–137.7; (7) 137.8–140.5; (8) 140.6–143.3; (9) 143.4–146.1; (10) 146.2–148.9

characteristics of racial entities, making it possible to perceive their structures. Without such information, mean values for certain characteristics are of little value.

By making certain assumptions it is possible to hypothesize the means by which race formation occurs, i.e., the differentiation level and degree of morphological specificity (Alexeev 1967). Typological variability occurs when reproductive isolation prevails between breeding populations and racial entities of larger or smaller size come into being. When this happens, intergroup correlations for many characteristics are much lower than intragroup correlations. Larger racial entities are, more often than not, clearly distinguishable from each other.

Another mechanism of race formation involves intensification of local variability. Under this mode, the only genetic barriers may be those generated by the inertia of overcoming distances and, consequently, the breeding populations overlap one another. Intensification of local variability does not usually have the effect of giving rise to well-defined superpopulational racial entities. Finally, racial variation can arise through continued directional changes in characteristics, leading to the emergence of a complex which is sharply contrasted to that of adjacent populations, in the absence of other raciogenetic processes. In terms of geographic distribution the latter mode appears much more limited than the former two. To illustrate our necessarily general statements, an example will be useful. The east European plain has been described as a

zone characterized by local variability and the Caucasus as an area where typological variability occurs. Among thirteen Russian craniological series, collected during the late eighteenth and nineteenth centuries, biological distances between pairs were calculated using the Penrose formula as revised by Knussmann (1962).

Similar calculations were performed using thirteen Caucasian series which were roughly contemporary with the Russian series. The distances between Caucasian populations proved, on the average, to be substantially larger in size, shape, and summary expression. Thus, when typological variability occurs, it is possible to discern greater morphological specificity of populations than occurs through local variability. This is fully consistent with the initial assumptions.

From the above, one can infer that differential racial geography is but a populational geography and, therefore, will reflect variations of mean values for individual populations and aggregations thereof, rather than extensive contingents of racial or ethnic character. It is in this sense that it deserves to be termed differential geography, as it gives a differentiated rather than a generalized description of the physical anthropology of an area. Thus, a repeat anthropological survey of the globe's population, paralleling studies of population structure in the countries concerned, represents a priority objective of contemporary racial study. Such studies have been started in many countries, including the Soviet Union.

I shall next consider how the study of individual racial entities at the population level can advance our understanding of their geography. The Turkmen represent a large and homogenous racial group, whose linguistic individuality is associated with characteristic craniological traits. In racial classifications, this group has been variously called an "East Mediterranean," "Caspian," or "Transcaspian" race. However, all researchers in the field emphasize the morphological distinctiveness of the Turkmen. Information regarding the distribution of the ABO phenotypes among Turkmen, which made it possible to calculate gene frequencies for them appeared many years ago (Ginzberg 1937). But it is doubtful that these data were applicable to the Turkmen nation as a whole.

Until recently, the Turkmen fell into more than twenty clan-tribal groups. The memory of the clan-tribal identity is still alive to some extent today. These tribal subdivisions are not endogamous and do not constitute, therefore, populations in the precise sense of the word. Rather they are exogamous, being connected with one another through a system of cross-marriages. Yet the very fact of their existence suggests that they could have played, at one time or another, the role of populations, and that they are probably relics of the populational breakdown of a previous epoch; otherwise their origin and functional social significance will remain obscure. A postgraduate student of mine, O. B. Babakov, carried

out an anthropological survey of the Turkmen nation at the level of clan-tribal divisions, which included collection of blood-group data. As an example, I supply the map of MN system gene distribution (Figure 2). Although on the whole the picture seems fairly stable, individual clan-tribal groups differ substantially from the peripheral groups. The ABO distribution follows the same pattern (Figure 3). Thus, it is safe to say that the extrapolation of summary data over the entire territory populated by the Turkmen results in a drastic schematization of the nation's actual racial composition.

A still greater schematization occurs when the extrapolation of summary data is attempted, using paleoanthropological material, especially since we are unaware yet of its potential. The concept of the "Cro-magnon" type, which includes the populations of the Neolithic and Bronze ages in the steppe regions of the Soviet Union has been broadly applied in Soviet paleoanthropological studies (Debets 1948). A universally large malar diameter of nearly 138–140 millimeters on the cranium (N45) has been regarded as a distinguishing characteristic of the type. However, if this trait is mapped not on the basis of summary means for cultures which may extend for hundreds of miles, but on the basis of means for graves, or at least from smaller areas, we can see considerable

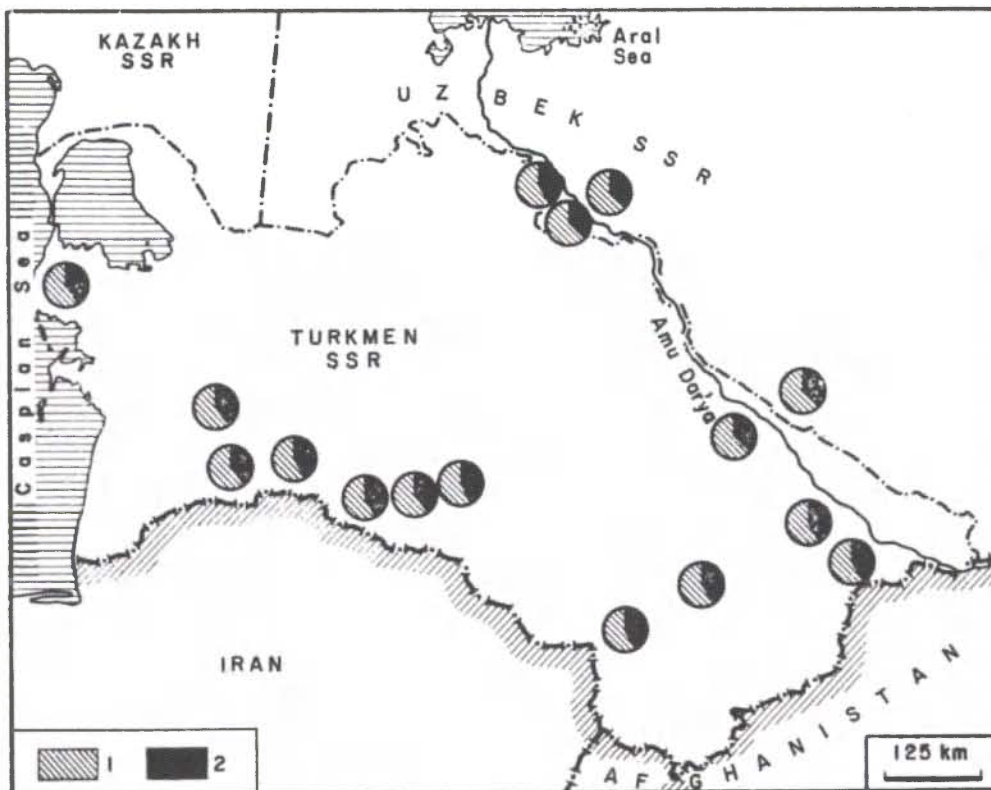


Figure 2. Geographical distribution of MN genes among Turkmen
Key: (1) concentration of m gene; (2) concentration of n gene

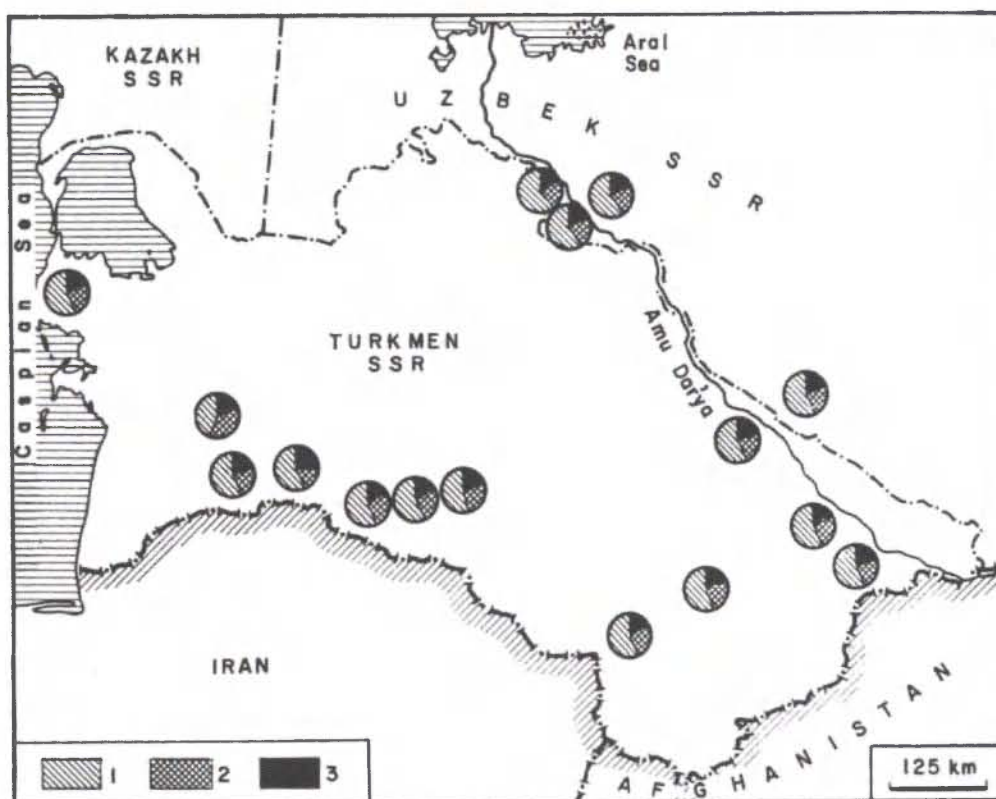


Figure 3. Geographical distribution of ABO genes among Turkmen

Key: (1) concentration of r gene; (2) concentration of p gene; (3) concentration of q gene

geographical distribution of the trait. This dispersion is augmented to some extent by gaps in the chronological sequence, which ranges from Neolithic to middle Bronze, but we are compelled to make do because of the scarcity of material. Together with very broad-faced groups within the Europoid population of the steppe regions in the Soviet Union, groups with a modest facial breadth were also fairly widely represented (Figure 4). Similar differences are observed for other properties. It is not altogether impossible that the "Cro-magnon" type, if approached from the populational standpoint, will give way to more differentiated estimates.

The differential or populational geography of races provides other new information as well. By following persistently the principles of differential geography, a substantial new element is introduced into the reconstructions of the genealogies of human races while many taxonomic delusions characteristic of the typological method are avoided. For example, the South-Siberian race is usually said to comprise the Kazakhs, Kirghizs, and the nationalities of the Altai-Sayan range. They have no integral habitation now, nor are they likely to have had any in ancient times, and they differ from one another by the ratio of the Europoid to Mongoloid components. Therefore, it is possible to identify within the

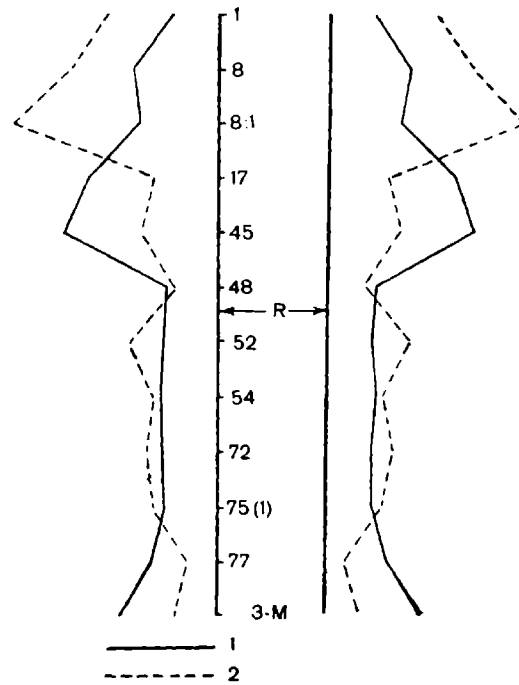


Figure 4. Craniological differentiation of Mesolithic, Neolithic, and Aeneolithic populations of Europe and southern Siberia in comparison with modern European peoples. Key: Male skulls: (1) variability of ancient populations; (2) variability of modern populations; (3) standard deviation for each trait, adopted for 100 percent

local South-Siberian race three population groups: Kazakhstan, Near-Tien-Shan, and Altai-Sayan.

As another example: some classifications combine, on the strength of morphological similarity, the Tibetan and Arctic races which are then considered as relic forms of a proto-Mongoloid complex. However, even long-standing genetic isolation was bound to have generated differences in numerous traits with simple hereditary bases. (Support for this belief exists in data on blood-group variations exhibited by Tibetans, which precludes their classification with Arctic peoples.)

Dozens of examples of this kind can be cited. As this is not possible here, I supply instead variations of racial classification (Figure 5) and its associated system of centers should represent original racial or "breeding grounds" of race formation (Figure 6) which, to some extent, reflect the principles presented herein.

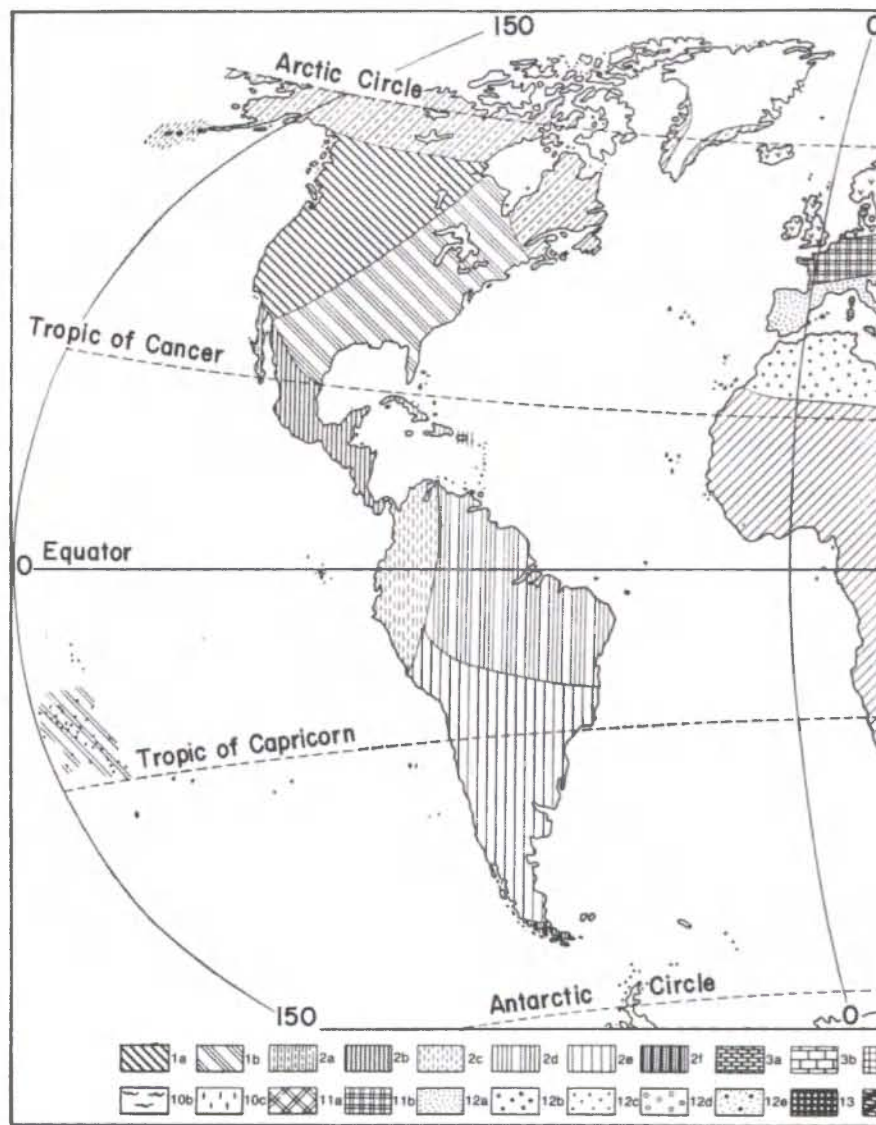


Figure 5. Probable distribution of races before European colonization

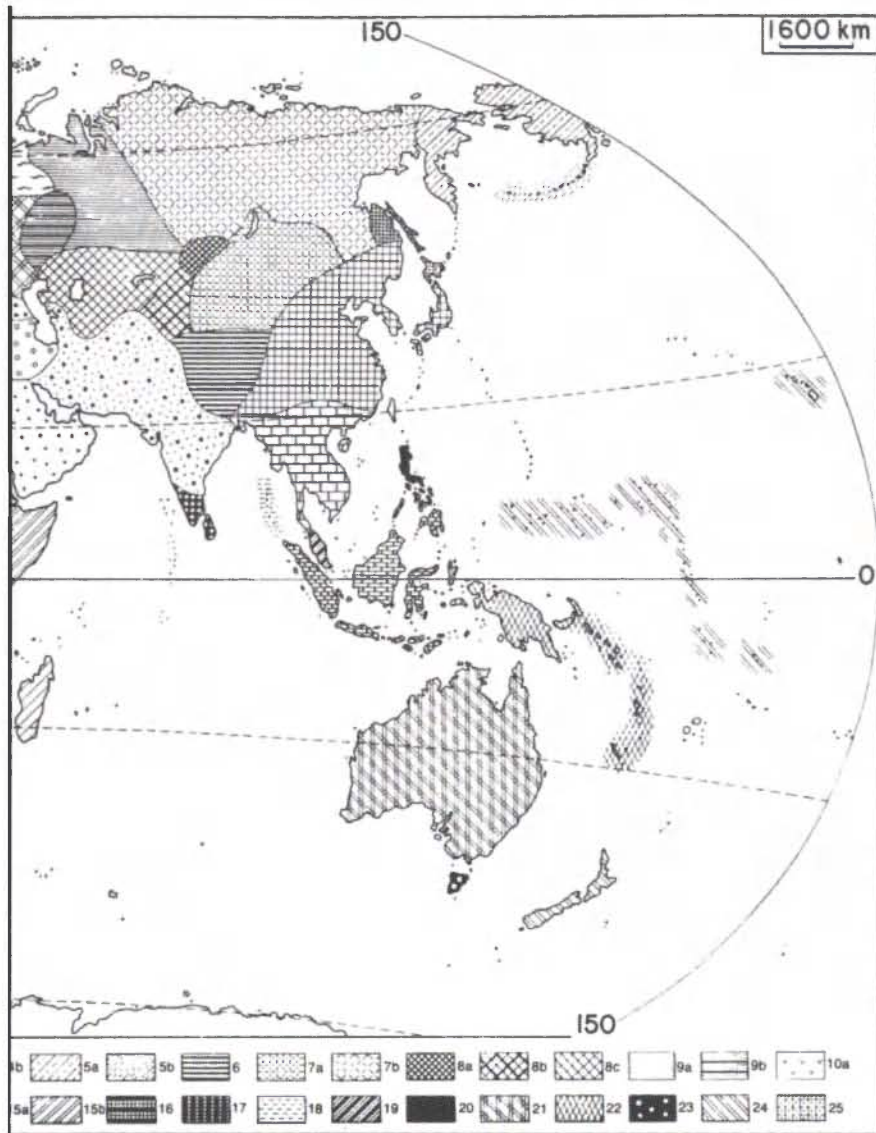
Key: EASTERN AMERO-ASIATIC DIVISION

I. *Amerindian branch*, local races and groups:

1. North American local race; 1a. Pacific group; 1b. Atlantic group; 2. Central and South American local race; 2a. Californian group; 2b. Central American group; 2c. Andean group; 2d. Amazonian group; 2e. Patagonian group; 2f. Semi-Marginal group

II. *Asiatic branch*, local races and groups:

3. Southern Mongoloid local race; 3a. Island group; 3b. Continental group; 4. Eastern Mongoloid local race; 4a. Far Eastern group; 4b. Amur and Sakhalinian group; 5. Arctic local race; 5a. Continental group; 5b. Island group; 6. Tibetan local race; 7. Northern Asiatic local race; 7a. Central Asiatic group; 7b. Baikal or forest group; 8. Southern Siberian group; 8a. Altaj and Sajanian group; 8b. Tien Shanian group; 8c. Kazakhstanian group; 9. Uralian local race; 9a. Western Siberian group; 9b. Sub-Uralian group



WESTERN EURO-AFRICAN DIVISION

III. *European branch*, local races and groups:

10. Baltic or northern European local race; 10a. Western Baltic; 10b. Eastern Baltic group; 10c. Lapponoid group; 11. Central European local race; 11a. Central and Eastern European group; 11b. Western European group; 12. Mediterranean or Southern European local race; 12a. Western Mediterranean group; 12b. Balkan and Caucasian group; 12c. Arabian and African group; 12d. Near Eastern group; 12e. Afghanistan and Indian

IV. *African branch*, local races and groups:

13. Southern Indian local race; 14. Ethiopian local race; 15. Negroid local race; 15a. Sudanian group; 15b. Eastern African group; 16. Central African local race; 17. Southern African local race

V. *Pacific branch*, local races:

18. Andaman local race; 19. Negrito Continental local race; 20. Negrito Philippine local race; 21. Australian local race; 22. Melanesian local race; 23. Tasmanian local race; 24. Polynesian local race; 25. Ainu or Kuril local race

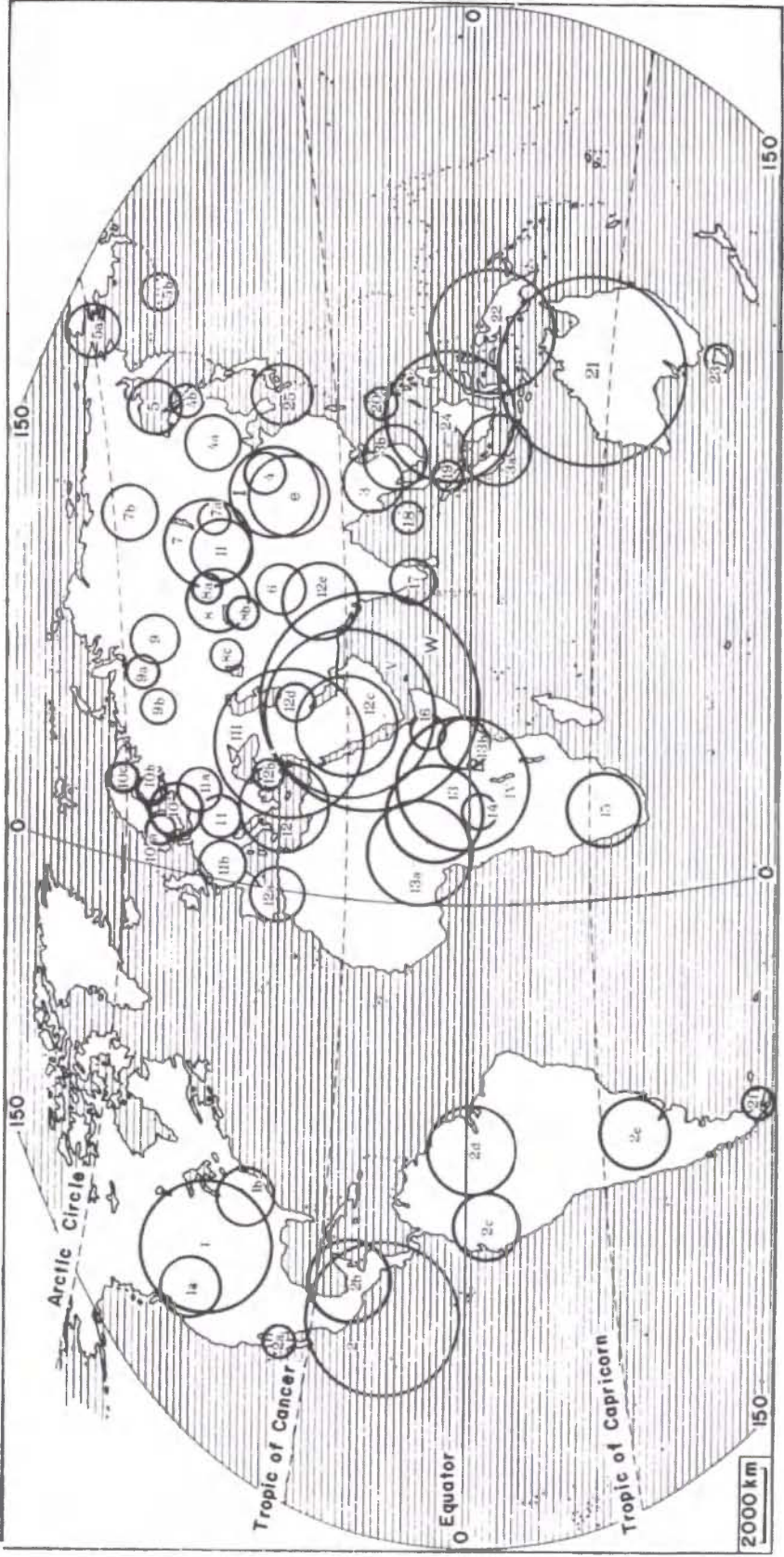


Figure 6. Probable distribution of race formative centers

Key: (E) EASTERN PRIMARY CENTER

I. Asiatic coastal secondary center

1. North American tertiary center: 1a. Pacific quaternary center; 1b. Atlantic quaternary center; 2. Central and South American tertiary center; 2a. Californian quaternary center; 2b. Central American quaternary center; 2c. Andean quaternary center; 2d. Amazonian quaternary center; 2e. Patagonian quaternary center; 2f. Semi-marginal quaternary center

II. Asiatic continental secondary center

3. Southeastern Asiatic tertiary center; 3a. Island quaternary center; 3b. Continental quaternary center; 4. Eastern Asiatic tertiary center; 4a. Far Eastern quaternary center; 4b. Amur and Sakhalinian quaternary center; 5. Kamchatka and Okhotsk tertiary center; 5a. Beringian continental quaternary center; 5b. Aleutian island quaternary center; 6. Tibetan tertiary center; 7. Central Asiatic tertiary center; 7a. Transbaikalian and Mongolian quaternary center; 7b. Northern Asiatic quaternary center; 8. Southern Siberian tertiary center; 8a. Altai and Sajanian quaternary center; 8b. Tien Shanian quaternary center; 8c. Kazakhstani quaternary center; 9. Transuralian tertiary center; 9a. Western Siberian quaternary center; 9b. Suburalian quaternary center

(W) WESTERN PRIMARY CENTER

III. European secondary center

10. Baltic tertiary center; 10a. Western Baltic quaternary center; 10b. Eastern Baltic quaternary center; 10c. Kola quaternary center; 11. Central European tertiary center; 11a. Central and Eastern European quaternary center; 11b. Western European quaternary center; 12. Mediterranean tertiary center; 12a. Western Mediterranean quaternary center; 12b. Balkan and Caucasian quaternary center; 12c. Arabian and African quaternary center; 12d. Near Eastern quaternary center; 12e. Afghanistan and Indian quaternary center

IV. African secondary center

13. African tropical tertiary center; 13a. Sudanian quaternary center; 13b. Eastern African quaternary center; 14. Central African tertiary center; 15. Southern African tertiary center; 16. Ethiopian tertiary center; 17. Southern Indian tertiary center

V. Asiatic and African secondary center

18. Andaman tertiary center; 19. Malacca tertiary center; 20. Philippine tertiary center; 21. Asiatic and Australian tertiary center; 22. Melanesian tertiary center; 23. Tasmanian tertiary center; 24. Asiatic and Pacific tertiary center; 25. Korean and Japanese tertiary center

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